EDITORIAL

Cardiovascular Disease and Sleep-Disordered Breathing: The Bridge to the Mainland

This edition of *Sleep and Breathing* concentrates on the important relationship between congestive heart failure and sleep-disordered breathing. Two original contributions by Dr. Thalhofer's group in Berlin add to our knowledge of this important relationship. We learn of the possible effect on respiratory control centers of prolonged congestive heart failure and the persistence of sleep-disordered breathing in successfully transplanted end-stage heart failure patients. In the companion paper, we are presented more data that oxygen may be helpful in improving the sleep fragmentation associated with this condition.

Dr. Thalhofer gives us a helpful overview of this serious and common clinical problem in his review article. The thoughtful "Second Opinion" by Dr. Naughton from Victoria poses some difficult questions concerning the complex interaction between the challenged left ventricle and control of breathing. His comparison of the control of respiratory energy expenditure with that of a bicycle race strategy has caused me to look at Cheyne–Stokes breathing with a new level of understanding. The knowledge base upon which we base our decisions for treatment has developed, as with all of medical science, because investigators around the globe take the lead in turn, advancing knowledge one sprint at a time.

I feel we are taking our cycle race from the hinterlands of medical obscurity and are sprinting across the bridge connecting us to the Mainland. The Mainland is the realm of medicine in which our colleagues in primary care and other specialties dwell every day. Diseases such as coronary artery disease, asthma, diabetes, hypertension, and congestive heart failure are prominent neighborhoods within the Mainland. Sleep-disordered breathing has only been visited by those of us willing to travel long distances from the Mainland. The intimate relationship of sleep-disordered breathing with cardiovascular disease will continue to increase awareness of all sleep-disordered breathing. Physicians who care for these common problems will need to be aware of the interaction between cardiac disease and breathing at night. Obstructive sleep apnea has long been suspected of causing cardiac problems. A recent publication documenting the risk of hypertension in sleep apnea patients is a landmark in our journey.[1] Those on the Mainland will soon recognize that obstructive sleep apnea can lead to systolic and diastolic left ventricular dysfunction, myocardial infarction, and stroke.

I feel, however, that the most interesting development is the realization not only that sleep apnea can cause heart disease but also that cardiac failure can cause sleep-disordered breathing! The treatment of this manifestation of left ventricular systolic dysfunction may have as profound an effect on general medical practice as does the treatment of sleep apnea. The real impact on the Mainland of medical practice may be improved outcomes in end-stage congestive heart failure patients. These patients consume extraordinary resources in professional attention, pharmacy, and hospital costs. I feel strongly that these patients may teach our medical colleagues more about the importance of sleep-disordered breathing will than the average sleep apnea patients simply because they are sicker.

While we cheer each of our colleagues as new developments are published relating the relationship of cardiac disorders and sleep-disordered breathing, we must prepare ourselves for the after race party. Too few physicians are trained today to treat and evaluate these complex Cheyne-Stokes patients. Although we are inclined to train more sleep doctors, we should be teaching more doctors (primary care physicians and cardiologists) about sleep.

Michael Coppola, M.D.

REFERENCE

1. Peppard PE, Young T, Palta M, Skatrud J. Prospective study of the association between sleep-disordered breathing and hypertension. N Engl J Med 2000;342(19):1378

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